

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Canceled)

2. (Currently Amended) A radio digital signal receiver, comprising:

means for individually detecting a received C/N and a decoding error rate of a received digital signal;

means for estimating inherent phase noise characteristics of a local oscillator in an outdoor unit connected to a receiving terminal of the radio digital signal receiver on the basis of foresight information for the relationship among three values of a received C/N, a decoding error rate and a phase noise and the detected received C/N and decoding error rate, in a burst symbol reception mode for regenerating a carrier from a burst symbol signal; and

means for setting carrier regenerative loop characteristics on the basis of the estimated inherent phase noise characteristics of the local oscillator in the outdoor unit.

3. (Previously Presented) The radio digital receiver according to claim 2, wherein said means for setting the loop characteristics sets a filter factor of a loop filter inserted into the carrier regenerative loop.

4. (Original) The radio digital signal receiver according to claim 3, wherein said burst symbol signal is a BPSK-modulating signal.

5. (Previously Presented) The radio digital signal receiver according to claim 3, wherein said decoding error rate to be detected is the bit error rate of a predetermined polyphase PSK-modulating signal.

6. (Currently Amended) A radio digital signal receiver comprising a down-converter having a local oscillator, a carrier regenerator, a demodulator for demodulating a received modulated wave signal and a decoder for taking a digital signal from the demodulated signal, further comprising:

means for detecting a received C/N of the received modulated wave on the basis of said demodulated signal;

means for detecting a decoding error rate of the digital signal;

means for determining the magnitude of the decoding error rate of said digital signal when the detected received C/N takes a predetermined value; and

means for changing a loop characteristic for said carrier regenerator on the basis of foresight information for the relationship among three values of a received C/N, a decoding error rate and [[a]] an inherent phase noise of the local oscillator in the down-converter and the determined result of the magnitude of said decoding error rate.

7. (Original) The digital radio signal receiver according to claim 6, wherein said decoding error rate to be detected is the bit error rate of a predetermined polyphase PSK-modulating signal which is demodulated in the burst symbol reception mode for regenerating a carrier from the burst symbol signal.

8. (Original) The radio digital signal receiver according to claim 6 or claim 7, wherein means for changing said loop characteristics changes the filter factor of a loop filter inserted into the carrier regenerative loop.

9. (Original) The radio digital signal receiver according to claim 7, wherein said burst symbol signal is a BPSK-modulating signal.

10. (Previously Presented) The radio digital signal receiver according to claim 7, wherein said predetermined polyphase PSK-modulating signal is an 8PSK-modulating signal.

11. (Currently Amended) A signal processing method used in [[the]] a radio digital signal receiver for down-converting a received modulation signal by using a down-converter, demodulating [[a]] the received modulated signal by using a regenerated carrier and decoding a digital signal from a demodulated signal, said method comprising the steps of:

detecting a received C/N of said received modulated signal on the basis of said demodulated signal;

determining whether said detected received C/N coincides with the predetermined value;

when said received C/N coincides with said predetermined value,

detecting a decoding error rate of said digital signal;

comparing the magnitude of the detected decoding error rate with a predetermined threshold value; and

changing the characteristic of the carrier regenerative loop on the basis of said compared result,

wherein said predetermined value for the received C/N and said predetermined threshold are determined on the basis of foresight information for the relationship among three values of a received C/N, a decoding error rate and [[a]] an inherent phase noise of a local oscillator in the down-converter.

12. (Previously Presented) The radio digital signal receiver according to claim 5, wherein said predetermined polyphase PSK-modulating signal is an 8PSK-modulating signal.